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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,480	05/08/2004	Timothy Kingston	07589.0164.PCUS00	1683

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EXAMINER	
HO, HA DINH	

ART UNIT	PAPER NUMBER
3681	

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/709,480	KINGSTON ET AL.	
	Examiner	Art Unit	
	Ha D. Ho	3681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/8/04 & 9/7/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This is the first Office Action on the merits of Application No. 10/709,480 filed on 5/8/04. Claims 1-9 are currently pending.

Specification

2. The disclosure is objected to because of the following informalities: in paragraph 0020, line 7, "18" should be changed to --17--.

Appropriate correction is required.

Claim Objections

3. Claim 1 is objected to because of the following informalities: claim 1, line 6, "which" should be changed to --said--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1 and 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jirousek et al. (US 4,317,498) in view of Forster (US 5,813,938).

Jirousek et al teach an arrangement (see Fig. 1) for driving a wheel of a vehicle, said arrangement comprising: a planetary gear transmission 74 including a sun gear 80 connected to a driving axle 30, a planet carrier 82 on which at least one planet gear 78 is arranged in engagement with the sun gear, and a ring gear 76 arranged around and in engagement with said planet gear; said ring gear and an outer, static part (16, 18) are of one piece construction and form an annular member, a braking device 46 and a wheel hub 86, said hub is connected firmly to the planet carrier, and a bearing arrangement (94, 96) provided between races in the hub and the annular member.

Jirousek et al do not show the bearing arrangement (94, 96) having balls provided between the races in the hub and the annular member.

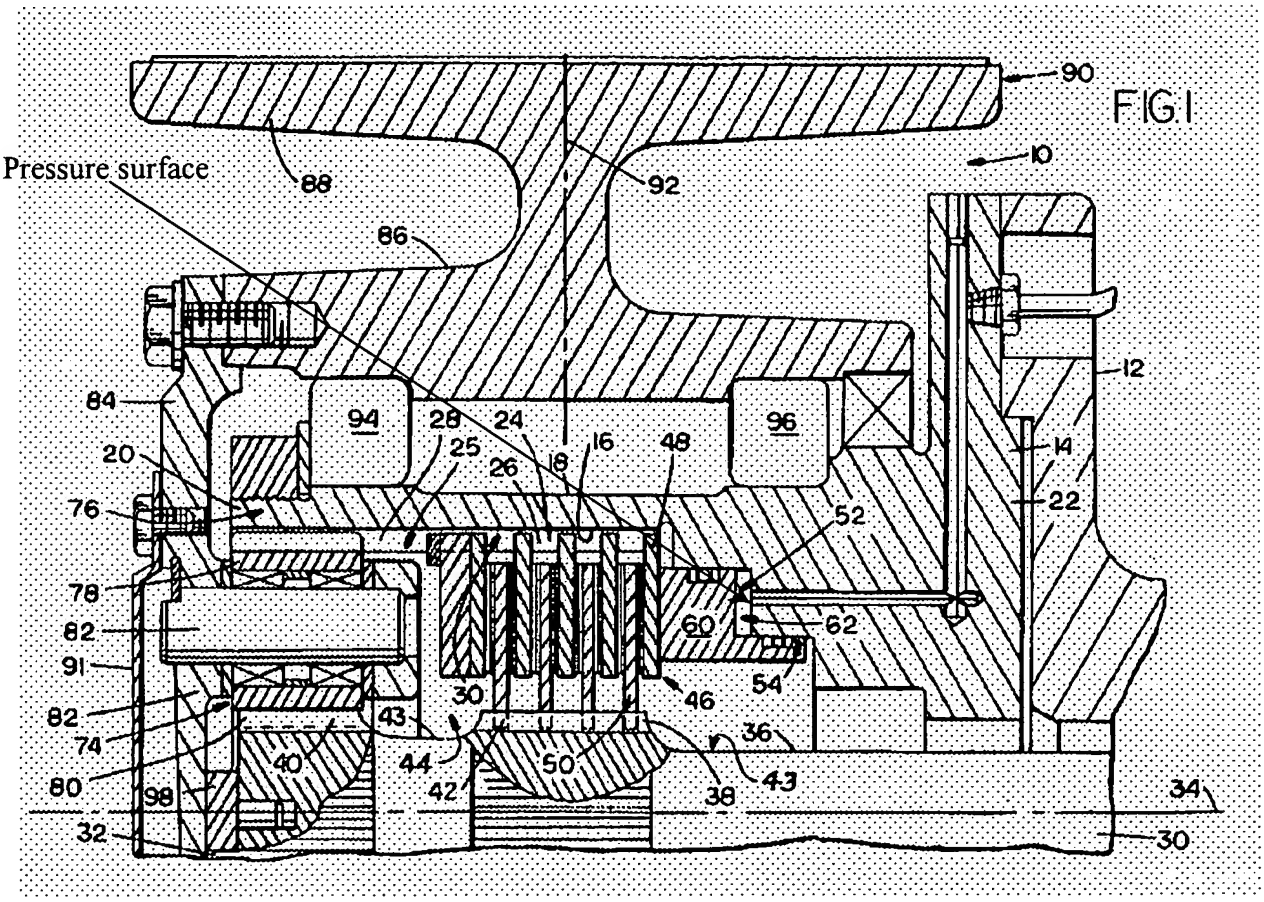
The bearing having balls provided between the races is old and well known in the art. For example, Forster shows a wheel hub arrangement having ball bearings (12', 13') (see Fig. 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide balls between the races in the hub and the annular member of Jirousek et al in view of Forster since the Examiner takes an Official Notice that a ball bearing is old and well known in the art. Moreover, the ball bearing has more degrees of freedom with respect to any other type of bearings, such as roller bearings.

Regarding claim 3, wherein the hub 86 is mounted against the annular member outside in the radial direction of that portion of the annular member which forms the ring gear 76, and also against said portion.

Regarding claim 4, Jirousek et al show the bearing arrangement including two bearings. The modified wheel hub arrangement would have two rows of balls arranged at a mutual spacing in the axial direction of the driving axle.

Regarding claim 5, wherein the annular member forms a pressure surface (see the Fig. below) for said braking device.



Regarding claim 6, wherein the outer, static part (16, 18) forms a portion of a brake housing for the braking device.

Regarding claim 7, wherein the annular member is connected firmly to an axle case (see col. 2, lines 22-25).

6. Claims 1, 2 and 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kingston (US 6,090,006) in view of Forster (US 5,813,938).

Kingston teaches an arrangement (see Fig. 1) for driving a wheel of a vehicle, said arrangement comprising: a planetary gear transmission including a sun gear 10 connected to a driving axle 6, a planet carrier 2 on which at least one planet gear 4 is arranged in engagement with the sun gear, and a ring gear 30 arranged around and in engagement with said planet gear; said ring gear and an outer, static part 28 form an annular member, a braking device 34 and a wheel hub 16, said hub is connected firmly to the planet carrier, and a bearing arrangement 26 provided between races provided in the hub and the annular member.

Kingston shows the ring gear 30 arranged in the outer, static part 28. Kingston does not specify that the ring gear and the outer, static part are formed of one piece construction.

Forster shows a similar wheel hub arrangement (see Fig. 1) having a ring gear 6 and an outer, static part 1 formed of one piece construction.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the ring gear and the static part of Kingston of one piece construction in view of Forster since one piece construction would be stronger and assembly of the ring gear and the static part would be eliminated.

Kingston do not show the bearing arrangement (94, 96) having balls provided between the races in the hub and the annular member. Kingston shows rollers instead.

Forster shows the wheel hub arrangement having bearings (12', 13') which are ball bearings (see Fig. 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the roller bearings of Kingston by the ball bearings in view of Forster since the ball bearing has more degrees of freedom with respect to the roller bearing.

Regarding claim 2, wherein the braking device and the hub are arranged on the planet carrier on different sides of the planet gear.

Regarding claim 4, the modified wheel hub arrangement would have two rows of balls arranged at a mutual spacing in the axial direction of the driving axle.

Regarding claim 5, wherein the annular member forms a pressure surface (a surface of the plate 32) for said braking device.

Regarding claim 6, wherein the outer, static part 28 forms a portion of a brake housing for the braking device.

Regarding claim 7, wherein the annular member is connected firmly to an axle case (see col. 2, lines 37-38).

Regarding claim 8, wherein the braking device comprises at least one first brake disk 36, which is connected to the planet carrier, and at least one second brake disk 40, which is connected to the static part, and a pressure applicator 46 that applies a pressure for the purpose of pressing the first and second brake disks together when braking takes place.

Regarding claim 9, wherein the braking device brakes the planet carrier relative to the static part arranged outside the planet carrier in the radial direction.

Cited Prior Art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Galicher'497, Dziuba et al.'382, and Yamazaki'330 which each shows a wheel hub arrangement including a planetary gear.

Communication

8. Submission of your response by facsimile transmission is encouraged. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9326 for regular communications and (703) 872-9327 for After Final communications. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see M.P.E.P. 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check. Responses submitted by facsimile transmission should include a Certificate of Transmission (M.P.E.P.. 512). The following is an example of the format the certification might take:

> I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office on _____
> (Date)
> Typed or printed name of person signing this certificate:
> _____
> _____
> (Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and M.P.E.P.. 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Examiner Ho whose telephone number is (703) 305-0738. The examiner can normally be reached on Monday-Friday from 7:30 A.M. to 5:00 P.M. Eastern Standard Time. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Mr. Charles Marmor, can be reached at (703) 308-0830. Any inquiry of a general nature or relating to the status of this application or proceeding should directed to the Group receptionist whose telephone number is (703) 308-2168.

HDH
(703) 305-0738
January 6, 2005

HA HO
PRIMARY EXAMINER
Art Unit 3681 1/6/05